## Amendments to the Specification

On page 1, please insert the following new paragraph beginning at line 2:

--This is the U.S. National Stage of International Application No. PCT/GB2004/003057, filed July 13, 2004 (published in English under PCT Article 21(2)), which in turn claims the benefit of Great Britain Patent Application No. 0316629.5, filed July 16, 2003.--

Please replace the paragraph beginning on line 6 of page 6, with the following re-written paragraph:

--According to an aspect of the invention there is provided a transgenic cell comprising a nucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of:

(i) a DNA molecule consisting of a DNA sequence as represented in Figures 1a, 1b or 1c (SEQ ID NO: 1, 2, 3 or 4);

(ii) a DNA molecule which hybridises to the sequences identified in (i) above and which encode a polypeptide which has fatty acid elongase activity; and

(iii) DNA molecules consisting of DNA sequences that are degenerate as a result of the genetic code to the DNA sequence defined in (i) and (ii).--

Please replace the paragraph beginning on line 1 of page 7, with the following re-written paragraph:

-- In a further preferred embodiment of the invention said polypeptide is a variant polypeptide and comprises the amino acid sequence represented in Figure 2a, 2b, or 2c (SEQ ID NO: 5, 6, or 7) which sequence has been modified by deletion, addition or substitution of at least one amino acid residue wherein said modification enhances the enzyme activity of said polypeptide.--

Please replace the paragraphs beginning on line 7 of page 8, with the following re-written paragraphs:

--In a further preferred embodiment of the invention said polypeptide comprises the amino acid sequence represented in Figures 2a, 2b or 2c (SEQ ID NO: 5, 6, or 7). Preferably

said polypeptide consists of the amino acid sequence represented in Figures 2a, 2b or 2c (SEQ ID NO: 5, 6, or 7).

According to a further aspect of the invention there is provided a vector including at least one nucleic acid molecule wherein said nucleic acid molecule is selected from the group consisting of:

i) a DNA molecule consisting of a DNA sequence as represented in Figures 1a, 1b or 1c (SEQ ID NO: 1, 2, 3 or 4);

ii) a DNA molecule which hybridises to the sequences identified in (i) above and which encode a polypeptide which has fatty acid elongase activity; and

iii) DNA molecules consisting of DNA sequences that are degenerate as a result of the genetic code to the DNA sequence defined in (i) and (ii).--

Please replace the paragraph beginning on line 28 of page 11, with the following re-written paragraph:

-- In a further preferred embodiment of the invention said cell is transfected with a nucleic acid molecules selected from the group comprising nucleic acid sequences selected from the group consisting of:

i) a DNA molecule consisting of the DNA sequence as represented in Figures 1a, 1b or 1c (SEQ ID NO: 1, 2, 3 or 4);

ii) DNA molecules which hybridise to the sequences identified in (i) above and which encode a polypeptide which has fatty acid elongase activity; and

iii) DNA molecules comprising DNA sequences that are degenerate as a result of the genetic code to the DNA sequence defined in (i) and (ii); combined with at least one of the nucleic acid molecules selected from the group consisting of,

iv) DNA molecules consisting of DNA sequences as represented in Figures 3a, 4a, 5a or 6a (SEQ ID NO: 8, 10, 12, or 14);

v) DNA molecules which hybridise to the sequences identified in (iv) above and which have desaturase, acyl-CoA synthetase or diacylglycerol acyltransferase activity;

vi) DNA molecules comprising DNA sequences that are degenerate as a result of the genetic code to the DNA sequence defined in (iv) and (v) above.--

Please replace the paragraph beginning on line 4 of page 17, with the following re-written paragraph:

--In a further preferred embodiment of the invention said polypeptides are those protein molecules disclosed herein. In particular, protein molecules which comprise the sequences as represented by Figures 2a, 2b, 2c, 3b, 4b, 5b or 6b (SEQ ID NO:5, 6, 7, 9, 11, 13 or 15).--

Please replace the paragraphs beginning on line 1 of page 18, with the following re-written paragraphs:

-- Figure 1a represents the nucleic acid sequence of a nucleic acid molecule comprising a fatty acid elongase TpELO2.1 (SEQ ID NO: 1 and 2); Figure 1b the nucleic acid sequence of the fatty acid elongase TpELO2.2 (SEQ ID NO: 3); Figure 1c the nucleic acid sequence of the fatty acid elongase TpELO2.3 (SEQ ID NO: 4);.

Figure 2a represents the amino acid sequence of TpELO2.1 (SEQ ID NO: 5); Figure 2b represents the amino acid sequence of TpELO2.2; and (SEQ ID NO: 6); Figure [[2b]] 2c represents the amino acid sequence of TpELO2.3 (SEQ ID NO: 7);

Figure 3a represents the nucleic acid sequence of *PIDES1* (SEQ ID NO: 8); Figure 3b represents the amino acid sequence of *PIDES1* (SEQ ID NO: 9);.

Figure 4a represents the nucleic acid sequence of a nucleic acid molecule comprising fatty acid desaturase, *PIDES2* (SEQ ID NO: 10); Figure 4b the amino acid sequence comprising *PIDES2* (SEQ ID NO: 11);

Figure 5a represents the nucleic acid sequence of a nucleic acid molecule comprising acyl-CoA synthetase, *PIACS1* (SEQ ID NO: 12); Figure 5b the amino acid sequence comprising *PIACS1* (SEQ ID NO: 13);

Figure 6a the full length sequence of a nucleic acid molecule encoding *PlDGAT2-1* (SEQ ID NO: 14); Figure 6b the full length amino acid sequence of *PlDGAT2-1* polypeptide (SEQ ID NO: 15); and

Figure 7a is the nucleic acid sequence of PlELO1 (SEQ ID NO: 16); Figure 7b amino acid sequence of PlELO 1 (SEQ ID NO: 17); Figure 7c is the nucleic acid sequence of PlELO 2 (SEQ ID NO: 18); Figure 7d is the amino acid sequence of PlELO 2 (SEQ ID NO: 19).--

Please replace the paragraphs beginning on line 15 of page 24, with the following re-written paragraphs:

-- The sequencing of 5,719 cDNA clones from the *P. lutheri* library also resulted in the identification of four cDNA clones from a single gene which gives a predicted amino acid sequence that has significant identity with fatty acid desaturase genes from a variety of organisms (Figure 3a and 3b; SEQ ID NOS: 8 and 9). This desaturase gene has been designated *PlDES 1.*

The sequencing of 5,719 cDNA clones from the *P. lutheri* library also resulted in the identification of three cDNA clones from a single gene which gives a predicted amino acid sequence that has significant identity with fatty acid desaturase genes from a variety of organisms (Figure 4a and 4b; SEQ ID NOS: 10 and 11). This desaturase gene has been designated *PlDES 2.*

The sequencing of 5,719 cDNA clones from the *P. lutheri* library also resulted in the identification of twelve cDNA clones from a single gene which gives a predicted amino acid sequence that has significant identity with acyl-CoA synthetase genes from a variety of organisms (Figure 5a and 5b; SEQ ID NOS: 12 and 13). This acyl-CoA synthetase gene has been designated *PlACS1.*

The sequencing of 5,719 cDNA clones from the *P. lutheri* library also resulted in the identification of one cDNA clone which gives a predicted amino acid sequence that has significant identity with diacylglycerol acyltransferase 2 genes from several organisms (Figure 6a and 6b; SEQ ID NOS: 14 and 15). This diacylglycerol acyltransferase 2 gene has been designated *PlDGAT2-1*.

The full length cDNA and protein sequence of *PlELO1 and PlELO2* is disclosed in Figures 7a, 7b, 7c and 7d (SEQ ID NOS: 16-19) respectively.--

Please insert the Abstract, submitted herewith on a separate page, as page 33 at the end of the application.

Please replace the previous sequence listing with pages 1-25 of the enclosed sequence listing.